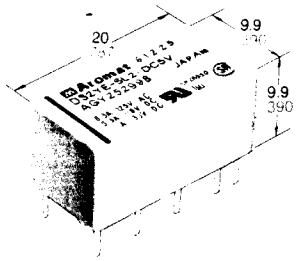
NAiS

2 FORM C—200 mW SENSITIVE MINIATURE RELAY 1500 V FCC SURGE WITHSTAND

DS2Y-RELAYS



mm inch

UL File No.: E57521
CSA File No.: LR26550

- **2 Form C contact**
- **High sensitivity—200 mW nominal operating power**
- **High breakdown voltage**
  1500 V FCC surge between open contacts
- **DIP—2C type matching 16 pin IC socket**
- **Sealed construction**

SPECIFICATIONS

Contact

Arrangement	2 Form C
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)	50 mΩ
Contact material	Gold-clad silver
Rating (resistive)	
Max. switching power	60 W, 62.5 VA
Max. switching voltage	220 V DC, 250 V AC
Max. switching current	2 A
Max. carrying current	3 A
UL/CSA rating	0.3 A 125 V AC 0.3 A 110 V DC 1 A 30 V DC
Expected life (min. operations)	
Mechanical	1×10^8
Electrical 1 A 30 V DC	5×10^5
2 A 30 V DC	1×10^5

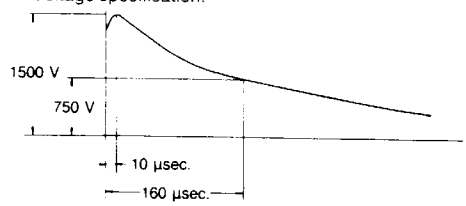
Coil (polarized) (at 20°C 68 F)

Single side stable	Minimum operating power	Approx. 98 mW (147 mW: 48 V)
	Nominal operating power	Approx. 200 mW (300 mW: 48 V)
2 coil latching	Minimum set and reset power	Approx. 88 mW (177 mW: 48 V)
	Nominal set and reset power	Approx. 180 mW (360 mW: 48 V)

Characteristics (at 25°C 77 F, 50% Relative humidity)

Operate time* (at nominal voltage)		Approx. 4 msec.
Release time* (at nominal voltage)		Approx. 3 msec.
Set time* (latching) (at nominal voltage)		Approx. 3 msec.
Reset time* (latching) (at nominal voltage)		Approx. 3 msec.
Initial breakdown voltage		
Between open contacts		750 Vrms
Between contact sets		1,000 Vrms
Between contact and coil		1,000 Vrms
Initial insulation resistance		1,000 MΩ (at 500 V DC)
FCC** surge voltage between contacts and coil		1,500 V
Temperature rise		Max. 65°C
Ambient temperature		−40°C to +70°C −40 F to +158 F
Shock resistance	Functional	Min. 490 m/s² (50 G)
	Destructive	Min. 980 m/s² (100 G)
Vibration resistance	Functional	196 m/s² (20 G), 10 to 55 Hz at double amplitude of 3.3 mm
	Destructive	294 m/s² (30 G), 10 to 55 Hz at double amplitude of 5 mm
Unit weight		Approx. 4 g .14 oz

* Excluding contact bounce time
**FCC (Federal Communication Commission) requests following standard as Breakdown Voltage specification.



TYPICAL APPLICATIONS

- Telecommunication equipment
- Office equipment
- Computer peripherals
- Security/alarm systems
- Medical equipment

ORDERING INFORMATION

Ex. DS2YE-S | L2 | DC12V | R

Operating function	Coil voltage	Polarity
Nil: Single side stable L2: 2 coil latching	DC 1.5, 3, 5, 6, 9, 12, 24, 48 V	Nil: Standard polarity R: Reverse polarity

- Standard packing: Carton: 50 pcs. Case: 500 pcs.

TYPES AND COIL DATA at 20°C 68°F

Single side stable

Nominal voltage, V DC	Part No.	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Nominal operating current mA (±10%)	Coil resistance, Ω (±10%)	Nominal operating power mW	Maximum allowable voltage, V DC (at 50°C 122°F)
1.5	DS2YE-S-DC1.5V	1.05	0.15	132.7	11.3	200	3
3	DS2YE-S-DC3V	2.10	0.3	66.7	45	200	6
5	DS2YE-S-DC5V	3.5	0.5	40	125	200	10
6	DS2YE-S-DC6V	4.2	0.6	33.3	180	200	12
9	DS2YE-S-DC9V	6.3	0.9	22.2	405	200	18
12	DS2YE-S-DC12V	8.4	1.2	16.7	720	200	24
24	DS2YE-S-DC24V	16.8	2.4	8.3	2,880	200	48
48	DS2YE-S-DC48V	33.6	4.8	6.3	7,680	300	86

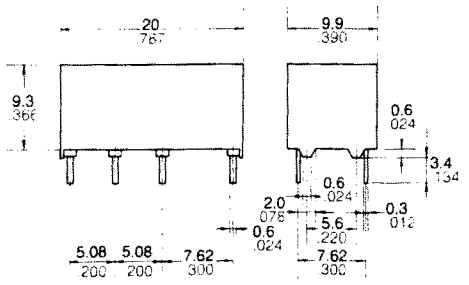
2 coil latching

Nominal voltage, V DC	Part No.	Reset set, V DC (max.)	Nominal operating current mA (±10%)		Coil resistance, Ω (±10%)		Nominal operating power, mW		Maximum allowable voltage, V DC (at 50°C 122°F)
			Set	Reset	Set	Reset	Set	Reset	
1.5	DS2YE-SL2-DC1.5V	1.05	120		12.5		180		3
3	DS2YE-SL2-DC3V	2.1	60		50		180		6
5	DS2YE-SL2-DC5V	3.5	36		139		180		10
6	DS2YE-SL2-DC6V	4.2	30		200		180		12
9	DS2YE-SL2-DC9V	6.3	20		450		180		18
12	DS2YE-SL2-DC12V	8.4	15		800		180		24
24	DS2YE-SL2-DC24V	16.8	7.5		3,200		180		48
48	DS2YE-SL2-DC48V	33.6	7.5		6,400		360		72

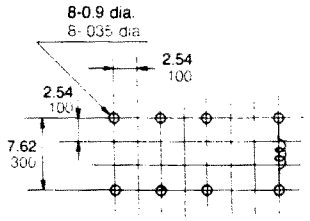
DIMENSIONS

mm inch

Single side stable — General tolerance: ±0.3 ±.012

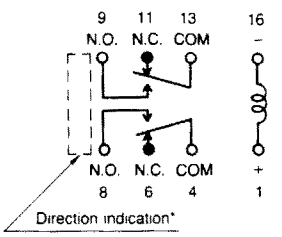


PC board pattern (Copper-side view)
Tolerance: ±0.1 ±.004



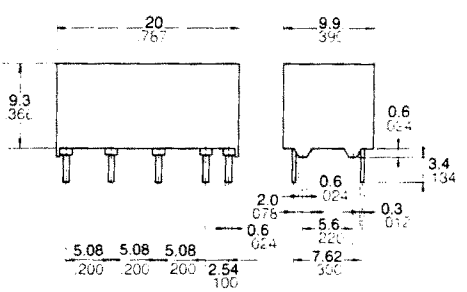
Schematic (Bottom view)

(Deenergized position)

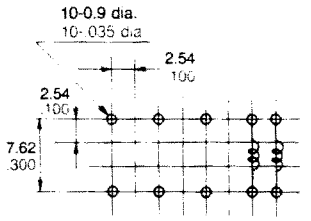


*A polarity bar shows the relay direction.

2 coil latching — General tolerance: ±0.3 ±.012

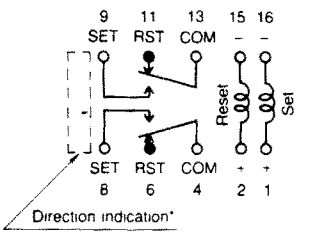


PC board pattern (Copper-side view)
Tolerance: ±0.1 ±.004



Schematic (Bottom view)

(Reset position)

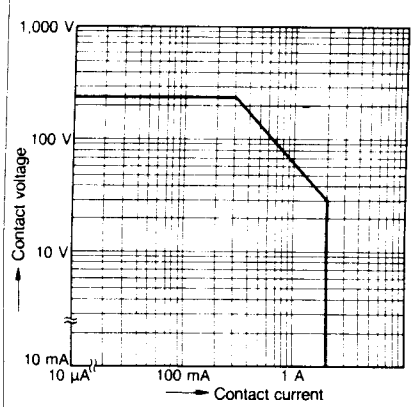


*A polarity bar shows the relay direction.

Diagram shows the "reset" position when terminals 2 and 15 are energized. Energize terminals 1 and 16 to transfer contacts.

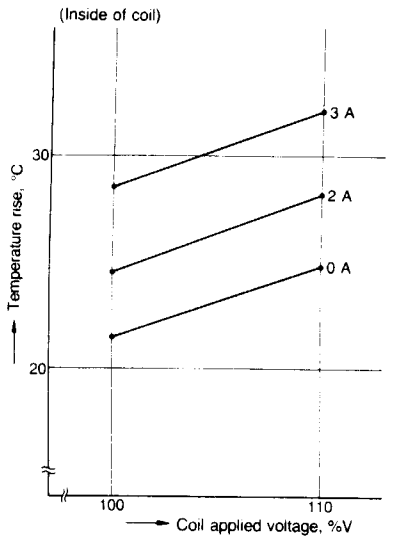
DATA

Maximum switching power

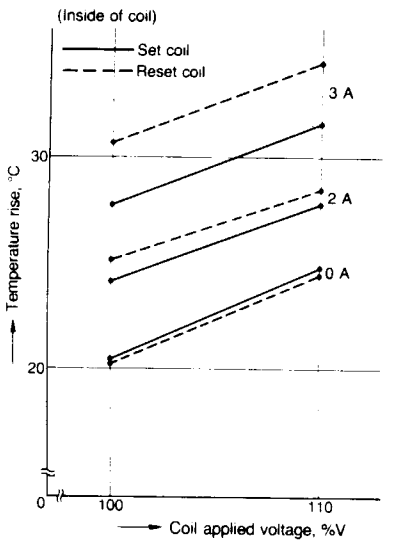


Coil temperature rise

1. Single side stable
Ambinet temperature: 21°C to 25°C 70°F to 77°F
Sample: DS2YE-S-DC12V, 5 pcs.

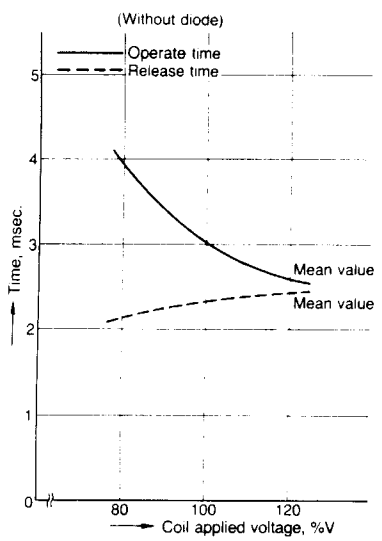


2. 2 coil latching
Ambinet temperature: 21°C to 25°C 70°F to 77°F
Sample: DS2YE-SL2-DC12V, 5 pcs.



Operate/release time for single side stable

Ambient temperature: 20°C 68°F
Sample: DS2YE-S-DC12V, 10 pcs.



Influence of adjacent mounting

Ambient temperature: 20°C 68°F
Sample: DS2YE-S-DC12V, 10 pcs.

TEST METHOD
1. Apply nominal voltage to No. (1) and (3) DS2Y relays.
2. Measure pick-up voltage and drop-out voltage of No. (2) relay when inter-relay distance (ℓ) changes.